KIBOGORA POLYTECHNIC

FACULTY OF HEALTH SCIENCE

DEPARTMENT OF GENERAL NURSING

Topic: ASSESSMENT OF APLICACATION OF MALARIA PREVENTIVE MEASURES AMONG CLIENTS ATTENDING KIBOGORA HEALTH CENTER.

Case study: Kibogora Health Center

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DECLARATION BY THE CANDIDATE

We Delphin TUYIZERE and Dieudonne UWACU hereby we declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been submitted to any other institution of higher learning. All materials cited in this paper which are not my own have been duly acknowledged.

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DECLARATION BY THE SUPERVISOR

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ABSTRACT

Malaria remains a global burden in public health. The objectives of this study were to prevent malaria among clients attending Kibogora Health Center while specific objective were (1) to evaluate the level of knowledge regarding prevention of malaria among clients attending Kibogora Health Center, (2) To find out the practice of clients attending Kibogora Health Center about prevention of malaria, and (3) To find out available materials for malaria prevention.

A simple random sampling technique was adopted for cases sampling and the quantitative approach was adopted to collect data for this research study.

In our research the total numbers of participants were 53 people from the clients who attend Kibogora Health Center. Among the participants, 51 (96.2%) participants had shown that they know malaria mode of transmission is by mosquito bite, 41 (77.4%) participants had also shown that use of ITN is one of preventive method, 8 (15.1%) participants has shown that they use drainage as preventive method, while 3 (5.7%) participants use to close the openings like door or window as their preventive measure and only 10 (18.9%) participants sometimes their houses were sprayed with anti-mosquito chemical spray (IRS) by community health workers.

According to our study we conclude that the preventive measures are not well applied based on the findings Reinforcement of community-based interventions to prevent malaria is highly recommended.

DEDICATION

We particularly dedicate our work

To our parents

To our Brother and Sisters

To our lectures

To our friends

ACKNOWLEDGEMENT

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ACRONYMS

ACT: Artemisine Combination Therapy

AFR: African Region

AFR: African Region

ARF: acute renal Failure

DHS: demographic health survey

e: The acceptable sampling error

EMR: Eastern Mediterranean Region

HF: health facilities

IRS: Indoor residual spraying

ITN: Insecticide-treated nets

KP: Kibogora polytechnic

LLINs: Long-Lasting Insecticide-treated Nets

N: The population size

n: the sample size

OPD: Outpatient Department

OPD: Outpatient Department

P: Plasmodium

PS: pilot study

RBC: Rwanda biomedical center

SEAR: Asia Region

SEAR: Southeast Asia Region

SPSS: statistical package of Social Sciences

UK: united Kingdom

UK: United Kingdom

WHO: World Health Organization

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CHAPTER ONE: GENERAL INTRODUCTION

1.0 INTRODUCTION

In this chapter we will talk about the introduction of the topic, background of the study, statement of the problem, purpose of the study, research questions, objectives of study, specific objectives, and significance of the study, limitations of the study, scope of the study, geographical scope, time scope, and domain scope.

Malaria is a parasitic disease caused by protozoa belonging to the genus *Plasmodium*.

There are four species that exclusively affect humans:

Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, and Plasmodium malariae.

Plasmodium species that commonly infect nonhuman primates can also be responsible for a high proportion of human cases in certain parts of the world as is the case with Plasmodium knowlesi in Southeast Asia (Nelson, 2021)

Engaging citizens in malaria prevention and control would help them to identify and prioritize their own health concerns and be able to make appropriate decisions (Domina, 2018).

1.1. BACKGROUND OF THE STUDY

Globally Malaria remains a major global public health problem and development challenge. It is an entirely preventable and treatable mosquito borne illness. The diseases are also responsible for huge economic losses; both in terms of health-care costs and lost productivity, mostly in countries that can least afford them (Lalloa, 2018).

According to the World Health Organization (WHO), about 229 million new cases of malaria were reported worldwide in 2019 and over 3.4 billion people are at risk of infection. Almost 94% of the malaria cases were reported in the WHO African Region (AFR), while 3.0 and 2.2% of the cases were recorded in the WHO Southeast Asia Region (SEAR) and Eastern Mediterranean Region (EMR), respectively. Moreover, approximately 409,000 malaria deaths occurred

worldwide in 2019, with sub-Saharan Africa accounting for about 95% of all global malaria deaths (Al-Mekhlaf, 2021).

In United Kingdom **Malaria** is the tropical disease most commonly imported into the UK, with 1300-1800 cases reported each year and 2-11 deaths are presented. Approximately three quarters of reported malaria cases in the UK are caused by Plasmodium falciparum, which is capable of invading a high proportion of red blood cells and rapidly leading to severe or life-threatening multi-organ disease. Most non-falciparum malaria cases are caused by Plasmodium vivax; a few cases are caused by the other species of plasmodium: Plasmodium ovale, Plasmodium malaria or Plasmodium Knowles (Steffen, 2018).

According to WHO global malaria mortality fell by 60% over the period 2000 to 2019. The African Region achieved impressive reductions in its annual malaria death toll from 680 000 in 2000 to 384 000 in 2019.

Countries in South-East Asia made particularly strong progress, with reductions in cases and deaths of 73% and 74%, respectively. India contributed to the largest drop in cases region-wide – from approximately 20 million to about 6 million. (WHO, 2020)

In United States of America Malaria parasites have existed longer than mankind, most likely originating in recorded history in Africa with fossils of mosquitoes. The first known case of the disease in America is believed to be after the arrival of explorer Christopher Columbus in 2012. Together with his crew, Columbus was infected with the disease during his voyage, although the malaria didn't survive as the vector borne mosquitoes died off in the cold climate (Kain, 2018).

In Developing Country

Malaria infection is one of the major causes of deaths in the African continent. The high burden of malaria in Africa is due to *P. falciparum*, which adapts and cospecializes with *Anopheles gambiae*, the most effective and widespread malaria vector. Since 2000, the incidence of malaria has been reduced by 17% and malaria mortality rates by 26%. However, the rate of decline has stalled and even reversed in some regions since 2014. In 2017 as described by the latest World malaria report, 219 million malaria cases were reported, up from 2017 million cases reported in 2016 in 91 countries, and the global tally of malaria deaths

reached 435,000 deaths, compared with 451,000 estimated deaths in 2016. Despite these achievements, the African region continues to account for about 92% of malaria cases and deaths worldwide (Ayong, 2019).

Uganda is ranked among the top six countries with the highest malaria burden [1–3]. Despite the improved coverage of interventions, malaria remains a major public health problem in Uganda accounting for 30% of outpatient visits to health facilities (HF), 14–20% of hospital admissions and 8–10% of inpatient deaths [4–6]. Although the epidemiology of malaria is heterogenous and varies in space and time, it is endemic throughout the whole country, and transmission occurs year-round. Plasmodium falciparum accounts for>95% of malaria infections in Uganda (Bosco, 2020).

In Rwanda Malaria is a major threat to human health globally and is endemic to the tropics and subtropics. Because of its impact on public health, malaria has received much attention. Rwanda is a sub-Saharan African nation whose entire population is at risk of contracting malaria. In Rwanda, 1.8 million and 443,000 children < 5 years of age and pregnant women, respectively, developed the disease in 2016 (Rudasingwa, 2020).

According to 2010 demographic health survey (DHS) malaria prevalence decrease26% in 2014in 2012 in adult and from14% in 2010 to 0.7 % in 2016 among pregnant women. In controversy, the study carried out in 2016 by Binagwaho Agnes and collaborators across Rwanda country shows that there is increase of malaria among adult, the result of this study on total of 749 adult person showed 5.5% of adult had malaria (Binagwaho, 2016).

Of the 30 districts of Rwanda, 19 are prone to epidemics and malaria is endemic in 11. The western and northern regions of Rwanda (~ 63% of the country) are epidemic-prone, while other areas are categorized as endemic and stable malaria-transmission zones, with the major foci in the south-eastern and eastern regions. The economic status of affected populations is a challenge for malaria control programs. Poverty is closely associated with malaria, and the risk of malaria is twofold greater in the poorest compared to the richest children in a community (Rudasingwa, 2020).

1.3 STATEMENT OF THE PROBLEM

Malaria has a considerable impact on the health of the populations of developing countries; indeed, the entire population of Rwanda is at risk of contracting the disease. Although various interventions to control malaria have been implemented in Rwanda, the incidence of malaria has increased since 2012. There is an interest in under- standing factors driving its persistence in Rwanda. (Rudasingwa, 2020)

There is not a research done on application of malaria preventive measures in the community of clients attending Kibogora Health Center but as we have seen that they receive patients with malaria between 20-35 during 5 days this study will help us to assess level of knowledge, practice of client attending Kibogora health center in preventing themselves from malaria and to find out available materials for malaria prevention so as to reduce the cases of malaria.

1.4 PURPOSE OF THE STUDY

After to conduct this research the results will help us to know malaria preventive measures among clients attending Kibogora Health Center.

1.5 RESEARCH QUESTIONS

   i.   What is the knowledge regarding prevention of malaria Kibogora Health Center?
   ii.   What is practice in prevention of malaria among clients at Kibogora Health Center?
   iii. What is the availability of materials used in prevention of Malaria?

1.6 OBJECTIVES OF STUDY

To prevent malaria among clients attending Kibogora Health Center.

1.6.1 Specific objectives

   i.   To evaluate the level of knowledge regarding prevention of malaria among clients attending Kibogora Health Center.
   ii.   To find out the practice of clients attending Kibogora Health Center about prevention of malaria.

iii.   To find out available materials for malaria prevention

1.7 SIGNIFICANCE OF THE STUDY

This research will be helpful in providing the needed knowledge about required prevention strategies or preventive measures of malaria in community of client attending Kibogora Health Center by healthcare.

This study will help the researchers as a point of reference and provide basic information related to application of malaria preventive measures.

This research will provide knowledge to the student of Kibogora polytechnic and also the more publication of research done from Kibogora polytechnic the more institution is advertised

1.8 LIMITATIONS OF THE STUDY

The study is delimited in domain, space and time. In space, this study was carry out in Rwanda,

Nyamasheke District, In Kibogora Health Center. In time, the study was covered in period of 6 months from July to March, at Kibogora Health Center.

1.9 SCOPE OF THE STUDY

This section comprises geographical, time and domain

1.9.1 Geographical scope
This study was conducted At Kibogora Health Center, which is in Nyamasheke District, Rwanda.

1.9.2 Time scope
Due to limited time required to complete the study and with the aim of collecting relevant data, this study covered the period ranging from July to January 2022.

1.9.4 Domain scope

This study will be carried out on client of Outpatient Department (OPD).

CHAPTER II LITERATURE REVIEW

2.0 INTRODUCTION

This chapter presents the existing theoretical and empirical literature on knowledge, practice and availability of material and prevention of malaria. This chapter also briefly summarizes key studies on malaria prevention and control that have been used by clients attending Kibogora Health Center.

2.1 THEORITICAL LITERATURE OF MALARIA

Malaria is the most frequent tropical parasitosis, is also of medical significance in Africa, central Europe and other regions as a traveler 'disease. The infection is caused by plasmodia (Plasmodium vivax, P. ovale, P. malariae, P. falciparum) transmitted by the bite of Anopheles mosquitoes. Untreated malaria tropical (caused by P. falciparum) can quickly develop to a lethal outcome. (Kayser, 2017)**.**

Globally, the number of countries that were malaria endemic in 2000 and that reported fewer than 10 000 malaria cases increased from 26 in 2000 to 47 in 2020. ((WHO), 2021).While Rwanda's entire population is considered at risk of malaria, 19 of the 30 districts are classified as high malaria endemic areas of which 11 account for more than 76% of the malaria cases. (Marijn, 2018).The malaria reduction was associated with the deployment of malaria prevention and control strategies, early diagnosis, and treatment. Malaria prevention and control measures include the use of Long-Lasting Insecticide-treated Nets (LLINs) and Indoor Residual Spraying (IRS), destruction of breeding sites through environmental management, use of repellents and chemoprophylaxis (Marijn, 2018)

Conclusion

Several studies have indicated that engaging citizens in malaria prevention and control interventions can stimulate their consistent and effective application Community engagement is key as the community members have the best understanding of their barriers to effective

interventions and can propose related possible solutions. Engagement empowers citizens and may create ownership in preventive activities.

2.3 knowledge associated with malaria prevention

People's knowledge on malaria causative agents, use of protection measures, mosquito breeding habitats and symptoms of malaria according to the study conducted in city of Yaoundé, The majority of respondents (94.9%, N=1415) attributed that the cause of malaria is by mosquito bite. A high number of participants reported using treated bed nets (94%, N=1526) for malaria prevention. Other measures used included insecticide spray or coils (32.2%, N=523) and windows screens (5%, N=82). Ranking their choices concerning why they were using treated nets, the majority of participants (84.4%) responded that they were using treated nets as a means of protection against mosquito bites as first or second choice, while only 47.3% responded that they were using bed net to prevent malaria transmission as first or second choices. (Talipouo, 2019)

On other hand research done in Western Kenya showed that Insecticide treated mosquito nets was by far the most reported known (97.4%) and applied (97.6%) personal protective while only 15.6% respondents were aware of house screening. The major reason given for screening doors, windows and eaves was to prevent entry of mosquito and other insects (> 85%). Lack of awareness was the major reason given for not screening houses. (Peter, 2019)

2.4 EMPIRICAL LITERATURE

Malaria remains a significant public health problem, disproportionately impacting morbidity and mortality in low-resource communities worldwide. After impressive progress in malaria control seen in the first decade of the century (2000–2010), the second decade appears more challenging. From 2014 to 2017, malaria cases have been on the rise in some areas. In 2018, there were approximately 228 million cases (95% confidence interval [CI] 206–258 million) of malaria worldwide, causing more than 405 000 deaths, mainly in Africa, that account for 93% of malaria cases. (Karema, 2020)

2.5 PREVENTION OF MALARIA AND CONTROL

Health education

It is sometimes stated that the populations in malaria eliminating countries should be kept educated about the symptoms of malaria, so that they will seek medical care and be diagnosed early. However, it seems odd to tell the population of a country that malaria has been eliminated, and then, that they should still be thinking about malaria, if they have fever. For a person with an unexplained fever, the possibility of serious disease should be the motivation for seeking care-seeking; thinking about malaria should be the responsibility of the health care provider. Still, it is rational to educate persons departing and arriving from endemic countries, and those living in receptive border areas with extensive population movement (Allan, 2021).

A Monoclonal Antibody for Malaria Prevention

Antibodies can prevent malaria by neutralizing the infectious P. falciparum sporozoites in the skin and blood before they can infect hepatocytes in the liver. The P. falciparum circumsporozoite protein is the most abundant P. falciparum sporozoite surface protein and is required for parasite motility and invasion of hepatocytes, making it a critical antigenic target for antibody neutralization and subunit vaccine development (Gaudinski, 2021).

Use of mosquito net bed

Mosquito nets help to keep mosquitoes away from people and reduce infection rates and transmission of malaria. Nets are not a perfect barrier and are often treated with an insecticide designed to kill the mosquito before it has time to find a way past the net. Insecticide-treated nets are estimated to be twice as effective as untreated nets and offer greater than 70% protection compared with no net(Portugal et al., 2014). Between 2000 and 2008, the use of ITNs saved the lives of an estimated 250,000 infants in Sub-Saharan Africa. About 13% of households in Sub-Saharan countries owned ITNs in 2007 and 31% of African households were estimated to own at least one ITN in 2008. In 2000, 1.7 million (1.8%) African children living in areas of the world where malaria is common were protected by an ITN. That number increased to 20.3 million (18.5%) African children using ITNs in 2007, leaving 89.6 million children unprotected and to 68% African children using mosquito nets in 2015. Most nets are impregnated with pyrethroids, , a class of insecticides with low toxicity (Manyando, 2012).

Acceptance of Indoor Residual Spraying

Indoor residual spraying (IRS) is application of insecticide to the interior walls of household structures that often serve as resting sites for mosquito vectors of malaria. Human exposure to malaria vectors is reduced when IRS involves proper application of predetermined concentration of active ingredient specific to insecticide formulation of choice (bradford, 2018).

In Africa, Indoor Residual Spraying is among the primary malaria vector control interventions. Many studies have indicated the effectiveness of IRS in decreasing malaria vector densities and malaria transmission. However, the share of the population at risk of malaria that is protected by IRS has declined globally from 5.7% in 2010 to 3.1% in 2015, and from 10.5% to 5.7% in Sub-Saharan Africa. The reduction in IRS coverage is mainly due to lack of financial means to sustain this effort over the long term. IRS is usually used only in particular areas where malaria is endemic and causing outbreaks. For example, in Rwanda, IRS is being executed in only five districts which have been classified as high malaria prevalence and high-risk districts (Domina, 2018).

Impact of citizen science approach on malaria-related behaviors

Malaria interventions that are embedded in the community and that involve citizens allow more discussion and in-depth analysis on the benefits of those interventions hence may obtain a high level of acceptance and use. Not involving the general public/community members is a missed opportunity because, in the end, they are the receivers of public health programs. Citizen science refers to involving volunteers in observations, classification, and collection of data, which in turn are used by researchers (Kullenberg, 2016).

Surveillance

A malaria programme, a vector-borne disease control programme or an epidemiological service must regularly assess the geographical extent of receptivity (risk of mosquito transmission) and vulnerability (malaria importation risk). This central unit must ensure proper classification, reporting and recording for all malaria cases and the identification and management of foci. It is also responsible for maintaining the alertness of general health services, the quality and availability of confirmatory diagnosis, updated treatment policy and availability of anti malarials (Schapira, 2021).

Stay in well-screened areas at night

Common night time activities across settings included household chores and entertainment during evening hours, as well as livelihood and large-scale sociocultural events that can last throughout the night. Shifting sleeping patterns associated with travel, visitors, illness, farming practices and outdoor sleeping, farming practices and outdoor sleeping, which can impact exposure and use of prevention measures were described in some location. While the importance of understanding human vector, interaction is well established relatively few studies have included human behavior when measuring exposure to malaria vectors (Moore, 2019).

Always use a mosquito-net impregnated with insecticides

The basic premise behind using insecticide-impregnated materials to control malaria is that they reduce human vector contact and decrease the number of infective and infected mosquitoes by killing some or most of those that touch the treated material. However, impregnated materials have the advantage of being easily distributed in the community to help other currently used methods of vector and malaria control. (Voorham, 2002)

Go for long sleeves

The result showed the most influential factor in malaria incidence was positive deviance. Positive deviance behavior to prevent malaria were used long sleeved clothing when working and when out at night use oil and burn trash and coconut belts.

Intervention monitoring results show that there is a significant effect of positive deviance strengthening intervention on increasing the use of long-sleeved clothes when working in the garden, forest and when going out at night to prevent malaria (Syamsiar, 2020)

2.6 Conceptual framework

A conceptual framework is a written or visual representation of an expected relationship between independent variable, dependent variable and exterous variable the conceptual framework is generally developed based on literature review of existing studies about the assessment of application of malaria preventive measures.

Dependent variables

Practice of prevention of malaria.

Availability of materials for malaria prevention

Independent variables

Knowledge regarding prevention of malaria

Intermediate variables

- ➢ Fever
- ➢ Chills
- ➢ General feeling of discomfort
- ➢ Headache
- ➢ Nausea and vomiting
- ➢ Diarrhea
- ➢ Abdominal pain
- ➢ Muscle or joint pain
- ➢ Fatigue
- ➢ Rapid breathing
- ➢ Rapid heart rate
- ➢ Cough

2.7 CONCLUSION

By taking an integrative approach, our model of determinants of malaria prevention behavior aims to enhance our understanding of the interrelationships between factors that influence individuals to participate in a citizen science platform and use malaria preventive measures (Domina, 2018).

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0 INTRODUCTION

This chapter describes the methodology where been used to carry out this study; it consists of the following points: Research Design, Target Population, Sample Design, Data Collection Methods, Data analysis Procedure and ethical consideration.

3.1 Study area

Area studies are interdisciplinary fields of research and scholarship pertaining to particular geographical, national/federal, or cultural regions. The term exists primarily as a general description for what are in practice of scholarship many heterogeneous fields of research, encompassing both the social sciences and the humanities (Luse, 2018).

This study was conducted at Kibogora Health Center which is located in western province, Nyamasheke District, Kanjongo Sector, Kibogora Cell, Nyagacaca Village.

3.2 RESEARCH APPROACHES

The research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis, and interpretation (Priya, 2016).The quantitative approach was adopted to collect data for this research study to assess malaria preventive measures among clients attending KIBOGORA Health center.

3.3 RESEARCH DESIGN

Research design can be considered as the structure of research it is the "Glue" that holds all of the elements in a research project together, in short it is a plan of the proposed research work (Cengage, January 2016). The study used descriptive design witch is a cross-sectional.

3.4 Study population

Target population refers to the total group of people from whom the information needed. (Amacon, 2018).

The study population was consisted of that attend clients at Kibogora Health Center for medical services. According to Kibogora Health center they received at least 15 cases of malaria during 5 days which means that they receive between 60 and 65 clients suffering from malaria.

3.4.1 Inclusion criteria

Inclusion criteria are defined as the key features of the target population that the investigators will use to answer their research question (Patino, 2018).We consisted of that attend clients at Kibogora Health Center who are at least above 18 years old, mentally healthy for medical services.

3.4.2 Exclusion criteria

exclusion criteria are defined as features of the potential study participants who meet the inclusion criteria but present with additional characteristics that could interfere with the success of the study or increase their risk for an unfavorable outcome (Patino, 2018).we will not consider child under 18 years old and those client who are not mentally healthy.

3.5 SAMPLE SIZE

Sample size is an important concept in statistics, and refers to the number of individual pieces of data collected in a survey (Sciencing, 2017).

A sample size of 53 respondents was selected. The sample size was determined using Slovin's formula (1960) below;

$$n = \frac{N}{1+N(e)^2}$$

Where;

n-the sample size

N - The population size (60)

e - The acceptable sampling error (0.05)

$$n = \frac{60}{1+60(0.05)^2} = 52.17 \sim 53 \text{ participants}$$

From the sample size calculation above, the total sample size from the study is 53 of patient attending Kibogora Health Center.

3.6 SAMPLING PROCEDURE

Sampling is defined as a procedure to select a sample from individual or from a large group of population for certain kind of research purpose (Bhardwaj, 2019).

In this study a simple random sampling technique was adopted for cases sampling. The sampling frame was made of 56 patients, taken out of the sampling frame of 112 patients. The researcher calculated interval to indicate them the patient who was selected. The interval was 2, and the researcher selected every second patient out of two.

3.7 DATA COLLECTION AND MANAGEMENT

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes (Kabir, 2018).

The collection of data for this study be carried out by the means of documentary tools, questionnaires, laptop, software (electronic sources such as the internet), hardware (books, journals from library), paper and interview guide.

3.7.1 Data collection tools

3.7.1.1 Questionnaire

A questionnaire is a research instrument consisting of series of questions for the purpose of gathering information from respondents (Mcleod, 2018). A questionnaire is defined as a set of questions which are asked to get information from a respondent. This research used questionnaire and interview as means of data collection. With questionnaire, structured questions were distributed to respondents in order to obtain various information for the research. Questionnaires contained open-ended and closed questions, and they have been addressed to the client attend Kibogora Health Center.

3.7.1.2 Documentation

In a report or research paper documentation is the evidence provided for information and ideas borrowed from other. That evidence includes both primary sources and secondary sources (nordquist, 2019).

The researchers used books and checked on internet for various views of other researchers in the same field by quoting and/or paraphrasing them as references. This was done so to make his work reliable and referential. The research instruments are the aids used of collecting data or instruments/tools to be used in the research. The collection of data for this study was performed by the means of different tools. The above instruments were used in order to get further information.

3.7.2 Pilot study

A pilot study is the first step of the entire research protocol and is often a smaller-sized study assisting in planning and modification of the main study. More specifically, in large-scale clinical studies, the pilot or small-scale study often precedes the main trial to analyze its validity (Junyong, 2017).

A pilot study (PS) is a small-scale research project conducted before the final full-scale study. A PS helps researchers to test in reality how likely the researchers process is to work, in order to help them decide how best to conduct the final research study.

In piloting a study, a researcher can identify or refine a research question, discover what methods are best for pursuing it and estimate how much time and what resources will be necessary to complete the larger final version of the study. (Nashwa, 2018)

We conducted pilot study at Kibogora District Hospital.

3.8 DATA ANALYSIS AND RESULT PRESENTATION

Data analysis is defined as a process of cleaning, transforming and modeling data to discover useful information decision making (johson, 2021)**.** Data analysis performed using the statistical package of Social Sciences (SPSS) Version 24 and Microsoft office. Each response was given a code to be captured in the computer. We checked data (cleaning), analyzed, interpreted and

summarized them. All data was analyzed quantitatively. The findings were presented in forms of frequency tables and graphs, proportions, means and percentages were used to describe the parameters investigated.

3.9 LIMITATION TO THE STUDY

In the "Limitations of Research" section, communication researchers have the opportunity to write about the major problems of the research study. This not only gives the researchers the opportunity to demonstrate to peer reviewers their awareness of the study's problems, but it also allows them to write about how they addressed the problems of the particular study (Olufowote, 2017). The study was delimited in domain, space and time. In space, this study was carried out in Rwanda, Nyamasheke District, in Kibogora Health Center. In time, this study was covered in period of 4 months from July to December, at Kibogora Health Center.

3.10 ETHICAL CONSIDERATIONS

The protection of human subjects through the application of appropriate ethical principles is important in any research study (Arifin, 2018). The ethical clearance letter for this study was obtained from the Kibogora Polytechnic Institution review board and Kibogora Health Center. However, participants were given information about the purpose of the study and willingly signed the consent to participate in the study.

The researcher maintained protection of human rights during this study. In respect to right to self-determination, participants included in the study only after being informed about the study. To ensure confidentiality, the returned questionnaires did not show the number or name and the identification of participants. The results of this study were for academic purpose only.

The participants were informed that they can withdraw any time from the study without any consequence or punishment.

CHAP IV. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 INTRODUCTION

In this chapter the raw data from the questionnaires are presented, analyzed and interpreted. It presents the discussion of the findings and the summary. The data analysis was done using the Statistical Package for Social Sciences (SPSS) Windows, version 24.

4.1 PRESENTATION OF FINDINGS AND INTERPRETATIONS

4.1.1 Demographic related data

4.1.1.1 Distribution of sex in respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	20	37.7	37.7	37.7
	Female	33	62.3	62.3	100.0
	Total	53	100.0	100.0	

Table 1**Sex of respondent**

The table above shows that all male were 20(37.7%) participants and female were 33(62.3%) participants.

4.1.1.2 Ages of participants

Age
- 18-28
- 29-39
- 40-50
- ABOVE 50
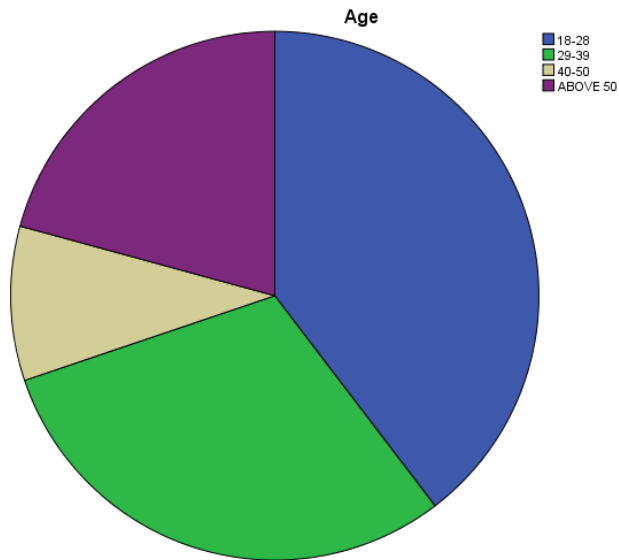
Figure 1A graph of Age

The above figure shows that 21 (39.6%) were participants between 18-28 years old,16 (30.2%) were participants between 29-39 years old, 5 (9.4%) were participants between 40-50 years old and 11(20.8%) were participants above 50 years old.

4.1.2 Knowledge related to prevention of malaria

4.1.2.1 Cause of malaria mentioned

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Parasites	47	88.7	88.7	88.7
	Bacteria	2	3.8	3.8	92.5
	Viruses	4	7.5	7.5	100.0
	Total	53	100.0	100.0	

Table 2:Distribution of Cause of malaria in respondent

According to the cause of malaria 47(88.7%) people respond that malaria is caused by parasite , 2(3.8%) respond that malaria is caused by bacteria and 4 (7.5%) respond malaria is caused by virus.

4.1.2.2 Signs and symptoms of malaria mentioned

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fevered	3	5.7	5.7	5.7
	Chills	1	1.9	1.9	7.5
	Headache	3	5.7	5.7	13.2
	Vomiting	1	1.9	1.9	15.1
	All above	45	84.9	84.9	100.0
	Total	53	100.0	100.0	

Table 3: **Distribution of Signs and symptoms of malaria in respondents**

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The table above shows the signs and symptoms of malaria 3 (5.7%)people said fever ,1(1.9%) responded chills , 3 (5.7%) responded headache ,1 (1.9%) responded vomiting and 45(84.9%) responded fever ,chills, headache, vomiting, joint pain as signs and symptoms of malaria.

4.1.2.3 The time of mosquitoes bite

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Day	2	3.8	3.8	3.8
	Night	51	96.2	96.2	100.0
	Total	53	100.0	100.0	

Table 4: Distribution of time of mosquito bite in participants.

According to participants 2 (3.8%) responded that malaria bite mostly at day while 51 (96.2%) responded that mosquitoes bite mostly at night.

4.1.2.4 Common breeding sites

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dry area	3	5.7	5.7	5.7
	Stagnant water	50	94.3	94.3	100.0
	Total	53	100.0	100.0	

Table 5 **Distribution of Common breeding sites**

The participant who responded that common breeding site is dry area are 3 (5.7%), while 50 (94.3%) responded that common breeding site is stagnant water body.

4.1.2.5 Mode of transmission

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mosquito bite	51	96.2	96.2	96.2
	Fly bite	1	1.9	1.9	98.1
	Drinking water	1	1.9	1.9	100.0
	Total	53	100.0	100.0	

Table 6 **Distribution of malaria's Mode of transmission in respondents**

The participants who responded that mode of transmission of malaria is mosquito bite were 51 (96.2) ,1 (1.9%) responded that malaria transmitted by fly bite and 1 (1.9%) responded that malaria is transmitted by drink water.

4.1.2.6 Advantage of mosquito nets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prevent mosquito bite	53	100.0	100.0	100.0

Table 7Advantage of mosquito nets

All participant 53 (100%) responded that advantage of mosquito nets is prevent mosquito bite.

4.1.2.7 Malaria is a life-threatening disease

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	3.8	3.8	3.8
	Disagree	2	3.8	3.8	7.5
	Agree	40	75.5	75.5	83.0
	Strongly Agree	9	17.0	17.0	100.0
	Total	53	100.0	100.0	

*Table 8*Malaria is a life-threatening disease

According to our respondents on how they think if malaria is life threatening disease 2 (3.8%) responded strongly disagree, 2 (3.8%) responded disagree, 40 (75.5%) responded agree and 9 (17%) responded strongly agree.

4.1.2 Practice of malaria prevention

4.1.2.1 Preventive methods mentioned (any)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ITN use	41	77.4	77.4	77.4
	Drainage of stagnant water	8	15.1	15.1	92.5
	Covering body	1	1.9	1.9	94.3
	Evening Close openings	3	5.7	5.7	100.0
	Total	53	100.0	100.0	

Table 9 Malaria Preventive measures

The table above show that 41 (77.4%) people mentioned use INT as preventive measure of malaria, 8 (15.1%) people said drainage of stagnant water , 1 (1.9%) said covering body and 3 (5.7%) They said they used to close door and window at evening as preventive measures

4.1.2.3 Sleeping under mosquito net

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	4	7.5	7.5	7.5
	Sometimes	13	24.5	24.5	32.1
	Always	36	67.9	67.9	100.0
	Total	53	100.0	100.0	

Table 10 Sleeping under mosquito net

According to participants we asked them how often they sleep in mosquito net 4 (7.5 %) never sleep in mosquito net , 13(24.5%) responded sometimes and 36 (67.9%) always sleep in mosquito net.

4.1.3 Availability of Materials

4.1.3.1 Barrier for utilization of the Insecticide Spraying

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Inadequate resources	43	81.1	81.1	81.1
	Unavailability of trained staff	6	11.3	11.3	92.5
	No supervision by qualified staff	3	5.7	5.7	98.1
	Use of traditional preventive approaches	1	1.9	1.9	100.0
	Total	53	100.0	100.0	

Table 11 Barrier for utilization of the Insecticide Spraying

According to respondents other barrier for utilization of the insecticide spraying and mosquito net 43 (81.1%) responded that is because of inadequate resources,6 (11.3%) responded that is because unavailability of trained staff , 3 (5.7%) responded that it is because of no supervision by qualified staff and mentorship of stuff while 1 (1.9%) said it is because of use of traditional preventive approaches.

4.1.3.2 The use of mosquito repellents in participant's house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	31	58.5	58.5	58.5
	Sometimes	13	24.5	24.5	83.0
	Always	9	17.0	17.0	100.0
	Total	53	100.0	100.0	

Table 12 the use of mosquito repellents in participant's house

According to respondents 31 (58.5%) never use mosquito repellents, 13 (24.5%) sometimes use mosquito repellents and 9 (17%) always use mosquito repellents in there house.

4.1.3.3 Frequency of sprayed with anti-mosquito chemical spray (IRS) by community health workers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	42	79.2	79.2	79.2
	Sometimes	10	18.9	18.9	98.1
	Always	1	1.9	1.9	100.0
	Total	53	100.0	100.0	

Table 13 Frequency of sprayed with anti-mosquito chemical spray (IRS) by community health workers

According to participant 42 (79.2%) never, 10 (18.9%) sometimes, 1(1.9%) always there house is sprayed with anti-mosquito chemical spray (IRS) by community health workers.

4.1.3.4 Frequency of clean/cut bushes around participant's house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	1.9	1.9	1.9
	Sometimes	17	32.1	32.1	34.0
	Always	35	66.0	66.0	100.0
	Total	53	100.0	100.0	

Table 14 Frequency of clean stagnant water/cut bushes around participant's house

According to the above table 1(1.9%) participant's never clean stagnant water/cut bushes, 17 (32.1%) sometimes clean stagnant water/cut bushes, and 35 (66%) always clean stagnant water and cut brushes around there house.

4.1.3.4 Frequency of participant's visits on health center when their feel sick

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes	14	26.4	26.4	26.4
	Always	39	73.6	73.6	100.0
	Total	53	100.0	100.0	

Table 15 Frequency of participant's visits on health center when their feel sick

Above table showed that 14 (26.4%) respondent sometimes visits health center when their feel sick and 39 (73.6 %) always visit the health center when they fall sick.

4.1.3.5 Frequency of receiving visits from the community health worker

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	12	22.6	22.6	22.6
	Sometimes	28	52.8	52.8	75.5
	Always	13	24.5	24.5	100.0
	Total	53	100.0	100.0	

Table 16 Frequency of receiving visits from the community health worker

The above table showed that 12 (22.6%) participants never receiving visits from the community health worker , 28 (52.8%) sometimes receiving visits from the community health worker and 13 (24.5%) always receive visits from the community health worker.

4.2 DISCUSSIONS OF FINDINGS

This study was designed to assessment of malaria preventive measures among clients attending Kibogora Health Center, Nyamasheke District, Rwanda. The discussion focused on key findings and the result.

A sample of 53 people from Kibogora Health Center in Nyamasheke District have voluntary participate in the study. Female and male with different ages, different level of education, different marital status, religion, different residency and different occupation have participated in the study.

4.2.1 Knowledge on malaria prevention

Table 2 shows that 47(88.7%) people responded that malaria is caused by parasite, 2(3.8%) responded that malaria is caused by bacteria and 4 (7.5%) respond malaria is caused by virus.

According to the research done in Department of Molecular Parasitology, Institute of Biology, Humboldt University Berlin, Germany showed that Malaria remains the most important mosquito borne infectious disease and is caused by blood infection with Plasmodium parasites (Matuschewsk, 2017)

The table 3 shows that 3 (5.7%) participants responded that the signs and symptoms of malaria is fever,1(1.9%) participants responded chills , 3 (5.7%) responded headache ,1 (1.9%) responded vomiting and 45(84.9%) responded fever ,chills, headache, vomiting, joint pain as signs and symptoms of malaria.

Table 4 showed that 2 (3.8%) participants responded that mosquito bite mostly at day while 51 (96.2%) responded that mosquitoes bite mostly at night. This match with study done within Morogoro and Dodoma regions Tanzania where study has shown that Anopheles is well known as the night-biting vector of malaria. (Mary, 2016)

Table 5 shows that 3 (5.7%) participants responded that common breeding site is dry area are, while 50 (94.3%) responded that common breeding site is stagnant water body. This also match with research done in Kassala Town, Eastern Sudan on A Qualitative Evidence of the Breeding Sites of Anopheles, Anopheles mosquitoes generally breed in different types of water and in a wide range of larval habitats that may be natural or human made, shaded or sunny, or temporary or permanent. (Hamza, 2016)

Table 6 showed that The participants who responded that mode of transmission of malaria is mosquito bite were 51 (96.2) ,1 (1.9%) participants responded that malaria transmitted by fly bite and 1 (1.9%) responded that malaria is transmitted by drink water. As research conducted in Naïve and Vaccinated Hosts Showed that Malaria is transmitted to humans by the bite of an infectious mosquito though it is unclear whether a mosquito with a high number of parasites is more infectious than one with only a few. They showed that the greater the number of parasites within the salivary gland of the mosquito following blood-feeding the more likely it is to have transmitted the disease. (Thomas, 2017)

Table 7 showed that All 53 (100%) participant responded that advantage of mosquito nets is preventing mosquito bite. This match with research done in southern Africa showed that Insecticide-treated nets (ITNs) reduce malaria morbidity and mortality in endemic areas. (Mufaro, 2018)

According to table 8 2 (3.8%) respondents responded strongly disagree that malaria is a life threatening disease, 2 (3.8%) respondents responded that they disagree, 40 (75.5%) respondents responded agreed and 9 (17%) responded strongly agree that malaria is a life threatening disease.

4.2.2 Practice related to malaria prevention

The table 9 showed that 41 (77.4%) participants mentioned that the use INT as preventive measure of malaria, 8 (15.1%) participants said that they use drainage of stagnant water as preventive measures, 1 (1.9%) said covering body as preventive measures and 3 (5.7%) said evening close openings as preventive methods. This match with research done in Mozambique witch showed that socio-economic and cultural factors influence the wide adoption of disease preventive measures that are relevant for malaria control strategies to promote early recognition of disease, prompt seeking of medical care, sleeping under insecticide-treated nets (ITNs). (Muchanga, 2021)

According to the Table 10,3(5.7%) respondents disagreed, 45 (84.9%) agree, 5 (9.4%) strongly agreed and 5 (9.4%) strongly agreed that they will seek for advice once they get malaria.

Table 11,showed the participants we asked them how often they sleep in mosquito net 4 (7.5 %) never sleep in mosquito net , 13(24.5%) responded sometimes and 36 (67.9%) always sleep in mosquito net.

Increased malaria prevalence was associated with lower income, non-compliance with bed-net usage and living below 1700 m of altitude. In addition to current malaria control strategies, potential interventions in individuals with lower income and areas at low altitudes should be taken into consideration when formulating malaria control strategies, Also use of ITNs to control the spread of malaria should be emphasized. (Rudasingwa, 2020)

4.2.3 Availability of material used in malaria prevention

According to the table 12 the participants who responded that other barrier for utilization of the insecticide spraying and mosquito net were 43 (81.1%) participants, 6 (11.3%) participants responded that is because of inadequate resources, 3 (5.7%) responded that is because unavailability of trained staff, 1 (1.9%) responded that it is because of no supervision by qualified staff and mentorship of stuff while said it is because of use of traditional preventive approaches. The table 13 showed that participants respondents 31 (58.5%) participants never use mosquito repellents, 13 (24.5%) participants sometimes use mosquito repellents and 9 (17%) participants always use mosquito repellents in there house. table 14 showed that 42 (79.2%) participants never sprayed there house with anti-mosquito chemical spray (IRS) by community health workers, 10 (18.9%) participants sometimes sprayed there house with anti-

mosquito chemical spray (IRS) by community health workers., 1(1.9%) always there house is sprayed with anti-mosquito chemical spray (IRS) by community health workers. Table 15 showed that 1(1.9%) participant's never clean stagnant water/cut bushes, 17 (32.1%) sometimes clean stagnant water/cut bushes, and 35 (66%) always clean stagnant water and cut brushes around there house. Table 16 showed that 14 (26.4%) respondent sometimes visits health center when their feel sick and 39 (73.6 %) always visit the health center when they fall sick. table 17 showed that 12 (22.6%) participants never receiving visits from the community health worker , 28 (52.8%) sometimes receiving visits from the community health worker and 13 (24.5%) always receive visits from the community health worker.

This match with research done in Wakiso district, Uganda that showed that Besides use of insecticide-treated mosquito nets (ITNs) and indoor residual spraying (IRS), other complimentary measures including suitable housing structures, and environmental management that reduce breeding of malaria vectors, can be implemented at households to prevent the disease. (Musoke, 2018)

4.3 summary of findings

A total number of 53 participants with different age above 18 years old. Due to the description of characteristics, this study found that assessment of malaria preventive measures Male was 20 (37.7%) and female were 33 (62.3%), 51 (96.2%) showed that they know malaria mode of transmission is by mosquito bite and 41 (77.4%) showed that use of ITN can be preventive method 8 (15.1%) use drainage as preventive method while 3 (5.7%) close openings like door or window, only 10 (18.9%) sometimes there house is sprayed with anti-mosquito chemical spray (IRS) by community health workers only 1 (1.9%) always there house is sprayed with anti-mosquito chemical spray (IRS) by community health workers.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.0. INTRODUCTION

The chapter presents the study conclusion and recommendations, based on the study objectives and research questions. The chapter ends up with suggestions on future research studies for malaria prevention.

5.1. CONCLUSION

In this research work "assessment of malaria preventive measures among clients attending Kibogora Health Center: Case study Kibogora Health Center, (2021-2022)", we have attempted to assess malaria preventive measures in Kibogora Health Center as sample of whole country.

We concluded that the use ITN is more applied where 41 (77.4%) participants mentioned that they use INT as preventive measure of malaria, 8 (15.1%) participants said that they use drainage of stagnant water as preventive measures, 3 (5.7%) said that they use closing openings at the evening as preventive methods as their key factors in malaria prevention. Reinforcement of community-based interventions to prevent malaria is highly recommended.

The data was summarized in tables and discussed on the findings from respondents. The results present different perceptions from respondents on knowledge and practice in malaria prevention in Kibogora Health Center, the necessity of implementation of this project, the strategies used to achieve their objectives, and researchers discussed the obstacles faced by the Kibogora Health Center patient.

5.2. RECOMMENDATIONS

In view of the obtained results of our study, we suggest the following recommendations:

To the ministry of health

To conduct a national survey aimed at assessment of malaria preventive measures among clients attending Kibogora Health Center, Nyamasheke District, Rwanda and reinforcement in adequate resources like mosquito net, as we have seen 42 (79.2%) never sprayed there house with anti-

mosquito chemical spray (IRS) by community health workers we recommend ministry of health to reinforce anti-mosquito chemical spray (IRS) in this community.

To Kibogora Health Center

To continue their routine diagnosing malaria and improve health education on malaria preventive measures to the clients attending this health center, Kibogora. And to sensitize to use preventive measures.

To People

To apply malaria preventive measures and to follow all instructions set by government, health workers and community health workers.

5.3. Suggestion for further study

We suggest that other further researches should be done by other researchers and scholars. It will be a good reference and great importance for researchers to carry out researches of the health sciences domain.

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APPENDIX 1

1. ENGLISH FORMAT

A. INFORMED CONSENT

Dear Participant

Our names are Delphin TUYIZERE and Dieudonne UWACU, students at KIBOGORA POLYTECHNIC and we are currently undertaking a Bachelor of Science in Nursing Science degree. As a partial fulfillment of this nursing science degree, we are required to undertake a research study in the area of our specialty. Therefore, we are carrying out a study to assess malaria preventive measures among clients attending Kibogora Health Center.

We are kindly requesting you to participate in our study, the information obtained will be treated in confidentiality and the findings of the study will be used to improve in malaria prevention.

We will personally conduct the interview in privacy and it will take 25 to 30 minutes. You are assured that your identity will not be revealed at any time during the study or when the study is reported or published. The data collected will be coded.

Please feel free to make your decision for participation or none participation since this decision will not affect the care given to you or your family as well as the relationship with the health providers. Your participation is voluntary and you are free to withdraw from the study at any time.

If you agree to participate please sign below. All the signed forms will be kept in locked cabinet only accessible to the Investigator and will be destroyed at the completion of the study. If you feel you need to communicate with me my address is:

The contact phone number is

 +250785236566 (Delphin TUYIZERE) &

 +250780329003 (Dieudonne UWACU)

Participants Consent

I have read this consent Form and I voluntarily want to participate in this study.

Participant 's Signature................................... Date..................................

Investigation 's Signature.................................. Date..................................

A. **QUESTIONNAIRE**

Instructions

The name should not appear on the question paper, only codes are used.

This questionnaire comprises five parts and it has been only designed for research purpose. Below you are given some questions; please provide you're most appropriate answer by circling appropriate number corresponding to your answer.

English version questionnaire

Part I: Socio-demographic characteristics

No	Questions	Coding Categories	Skip
1.1.	Sex of respondent	1. Male 2. Female	
1.2.	Age	1. 18-28 2. 29-39 3. 40-50 4. Above 50	

Part 2: Questions related to the Knowledge of malaria

No	Questions related to the Knowledge	Coding Categories	Skip
2.1.	Cause of malaria mentioned	1. Parasites 2. Bacteria 3. Viruses	
2.2.	Signs/symptoms of malaria mentioned	1. Fevered 2. chills 3. Headache 4. Joint pain 5. Vomiting 6. All above 7. Others	
2.3.	When does a mosquito bite mostly?	1. Day 2. Night	
2.4.	Common breeding sites	1. Dry area 2. Water body	
2.5.	Mode of transmission	1. Mosquito bite 2. Fly bite 3. Drinking water	
2.6.	Preventive methods mentioned (any)	1. ITN use 2. Drainage 3. Covering body 4. Smoke 5. Repellant use 6. Close openings	
2.7.	Advantage of mosquito nets	1. Prevent mosquito bite 2. Attract mosquito 3. Group most affected by malaria 4. Pregnant & children 5. Other groups	

Part 3: Questions related to the attitude towards malaria

Level of agreement of Attitude towards malaria prevention measures utilization	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
3.1 I think that Malaria is a life-threatening disease					

Part 4: Questions on Other related factors

No	Questions	Coding Categories	Skip
4.1.	Any Other barrier for utilization of the Insecticide Spraying and Mosquito Nets	1. Inadequate resources 2. unavailability of trained staff, 3. poor supervision and mentorship of staff 4. Visits from the community health worker 5. Use of traditional preventive approaches	

Part 5: Questions related to Practice of malaria prevention measures

Frequency of malaria prevention measures utilization	Never (1)	Sometimes (2)	Always (3)
5.1. How often do you sleep under mosquito net?			
5.2. How often do you use mosquito repellents in your house?			
5.3. How often your house is sprayed with anti-mosquito chemical spray (IRS) by community health workers?			
5.4. How often do you receive visits from the community health worker?			

Thanks for your participation!

1. KINYARWANDA FORMAT

Bafatanyabikorwa,

Amazina yacu ni Delphin TUYIZERE na Dieudonne UWACU, turi abanyeshuli biga muri kaminuza ya KIBOGORA POLYTECHNIC, tukaba turi gusoza icyiciro cya kabiri cya kaminuza mu ishami ry'ubuforomo. Ubu bushakashatsi bukaba ari bumwe mu byo dusabwa kugirango tubona iyo mpamyabumenyi.

Turi gukora ubushakashatsi mu **kureba ingamba abagana ikigonderabuzima cya kibogora bafata mu kwirinda malariya.**

Turagusaba gufatanya natwe muri ubu bushakashatsi, amakuru utanga arafatwa mu buryo bwibanga kandi ibizavamo bizifashishwa muri gahunda zo kwirinda maraliya.

Nitwebwe ubwacu tuzikusanyiriza amakuru mu buryo bw'ibanga kandi bizajya bitwara iminota hagati 25 na 30. Turagusezeranyako imyirondoro yawe ari ibanga.

Niwemera ko dufatanya urashyira umukono ahabugenewe.

Ugize ikibazo nyuma waduhamagara kuri nomero zikurikira

 +250785236566 (Delphin TUYIZERE) &

 +250780329003 (Dieudonne UWACU)

AMASEZERANO Y'UMUFATANYABIKORWA

Nasomye neza amabwiriza yubushakashatsi kandi ku bushake bwanjye nifuje gufatanya namwe muri kino gikorwa;

Umukono ……………… ITARIKI………………

Umukono w'umushakashatsi………………..ITARIKI……………….

B. IBIBAZO

Amabwiriza

Amazina ntagomba kugaragara ku rupapuro rw'ibibazo, harifashishwa kode.

Ibibazo birimo ibyiciro bitanu kandi byose bigenewe ubushakashatsi.

Urashyira akaziga ku mubare ujyanye n'igisubizo.

Ibibazo mu kinyarwanda

ICYICIRO CYA I: IRANGAMIMERERE

No	ibibazo	Ibisubizo		Simbuka
1.1.	Igitsina cy' usubiza	1. Gabo	2. Gore	
1.2.	Imyaka	1. 18-28 2. 29-39 3. 40-50 4. Hejuru ya 50		

ICYICIRO CYA II: Ibibazo bijyanye n'ubumenyi kuri maraliya

No	IBIBAZO BIJYANYE N'UBUMENYI	ibisubizo	Simbuka
2.1.	Wigeze wumva malariya?	1.Oya 2. Yego	
2.2.	Ni iki gitera malariya?	1. Parasite 2. Bagiteri 3. Virusi	
2.3.	Twereke ibimenetso bya malariya	1.Umuriro 2.Gutitira 3.Umutwe 4.Kubabara mu ngingo 5.Kuruka	

		6. Ibyohejuru byose	
		7.Ibindi	
2.4.	Imibu ikunda kuryana ryari?	1. Kumanywa	
		2. Nijoro	
2.5.	Ahantu imibu ikunda kororokera?	1. Ahantu humagaye	
		2. Ahantu hari amazi	
2.6.	Imibu ikunda kuruhukirahe?	1.Mu nzu	
		2.Hanze	
2.7.	Uburyo malariya yandura	1.Umubu ukurumye	
		2.Isazi ikurumye	
		3.Kunywa amazi	
2.8.	Uburyo bwo kwirinda malariya	1.Gukoresha inzitiramibu iteye umuti	
		2. Gukamya amazi	
		3.Kwifubika	
		4.Kunnywa itabi	
		5.Gutera imiti yica imibu	
		6.Gufunga ahafunguye	
2.9.	Ibyiza by' inzitiramibu	1.Ituma imibu itakuruma	
		2.Ikurura imibu	
		3.Ishyirahamwe abagezweho cyane na malariya	
		4.Abatwite na bana	
		6. Andi matsinda	

ICYICIRO CYA III IBIBAZO BYEREKEYE IMYITWARIRE KURI MALARIYA

Ingano yimyitwarire ku kurwanya malariya	*Simbyemera nagato (1)*	*simbyemera (2)*	*ndifashe (3)*	*ndabyemera (4)*	*Ndabyemera cyaane (5)*
3.1 Ndatecyereza ko malariya ari indwara iteye ikibazo kubuzima .					

ICYICIRO CYA IV IBINDI BIBAZO

No	IBIBAZO	Ibibazo	Simbuka
4.1.	Izindi mbogamizi zituma udakoresha imiti yica imibu ndetse n'inziitiramibu.	1.Ninkeya 2.Kutaboneka kwa bakozi babihuguriwe 3. Abahugura badahagije 4.Gusurwa n'abajyanama b'ubuzima	

Part 5: Questions related to Practice of malaria prevention measures

Frequency of malaria prevention measures utilization	*Never (1)*	*Sometimes (2)*	*Always (3)*
5.5. How often do you sleep under mosquito net?			
5.6. How often do you use mosquito repellents in your house?			
5.7. How often your house is sprayed with anti-mosquito chemical spray (IRS) by community health workers?			
5.8. How often do you receive visits from the community health worker?			

ICYICIRO CYA IV IBIBAZO BYEREKEYE IBIKORWA BYO KWIRINDA MALARIYA

	Ingamba dukoresha twirinda malariya	*ntanarimwe*	*Rimwe na rimwe(2*	*burigihe (3)*
5.1.	Ni kangahe muryama munzitira mubu ?			
5.2.	Ni nshuro zingahe ukoresha umuti utera imibu guhunga ?			
5.3.	Ni nshuro zingahe u koresha umuti wica imibu iwawe?			
5.4.	Ni kangae ujya ugendererwa nabanjyanama bubuzima?			